



Agilent Technologies

Kit Name: LC/MS Pesticide Standard Kit

Kit PN: 5190-0551

This product is a kit, composed of the following individual chemical components:

Kit Components

Component Part Number	Component Name	Volume or mass/ container and unit	No. of component containers/ kit
5190-0551-1	LC/MS Pesticide Standard 1	1 mL	1
5190-0551-2	LC/MS Pesticide Standard 2	1 mL	1
5190-0551-3	LC/MS Pesticide Standard 3	1 mL	1
5190-0551-4	LC/MS Pesticide Standard 4	1 mL	1
5190-0551-5	LC/MS Pesticide Standard 5	1 mL	1
5190-0551-6	LC/MS Pesticide Standard 6	1 mL	1
5190-0551-7	LC/MS Pesticide Standard 7	1 mL	1
5190-0551-8	LC/MS Pesticide Standard 8	1 mL	1

SDSs for each component follow this cover sheet.

Transportation Information for the Kit:

Proper Shipping Names:

DOT	IATA/ICAO	China
Not Regulated	Not Regulated	UN1648, Acetonitrile Solution, 3, II

Not regulated



1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name: LC/MS Pesticide Standard 1**
- **Part number: 5190-0551-1**
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str.8
76337 Waldbronn
Germany
- **Further information obtainable from:**
Telephone: 0800 603 1000
pdl-msds_author@agilent.com
- **Emergency telephone number: CHEMTREC®: +(44)-870-8200418**

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2 H319 Causes serious eye irritation.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02



GHS07



GHS09

- **Signal word** Danger
- **Hazard-determining components of labelling:**
acetonitrile
- **Hazard statements**
H225 Highly flammable liquid and vapour.



Trade name: LC/MS Pesticide Standard 1

(Contd. of page 1)

- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.
- H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P330 Rinse mouth.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P391 Collect spillage.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 75-05-8 EINECS: 200-835-2	acetonitrile Flam. Liq. 2, H225; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	99.67%
CAS: 2642-71-9 EINECS: 220-147-6	azinphos-ethyl (ISO) Acute Tox. 2, H300; Acute Tox. 3, H311; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 22224-92-6 EINECS: 244-848-1	fenamiphos (ISO) Acute Tox. 2, H300; Acute Tox. 2, H310; Acute Tox. 2, H330; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Eye Irrit. 2, H319	0.0127%
CAS: 149961-52-4	dimoxystrobin (ISO) Carc. 2, H351; Repr. 2, H361d; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H332	0.0127%

(Contd. on page 3)



Trade name: LC/MS Pesticide Standard 1

(Contd. of page 2)

CAS: 142459-58-3	flufenacet (ISO) ⚠ STOT RE 2, H373; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	0.0127%
CAS: 189278-12-4	proquinazid ⚠ Carc. 2, H351; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 118134-30-8	spiroxamine ⚠ Repr. 2, H361d; STOT RE 2, H373; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Skin Sens. 1, H317	0.0127%
CAS: 2164-08-1 EINECS: 218-499-0	lenacil (ISO) ⚠ Carc. 2, H351; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 94361-06-5	cyproconazole(ISO) ⚠ Acute Tox. 3, H301; ⚠ Repr. 1B, H360D; STOT RE 2, H373; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Call for a doctor immediately.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

(Contd. on page 4)



Trade name: LC/MS Pesticide Standard 1

(Contd. of page 3)

- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

75-05-8 acetonitrile

WEL	Short-term value: 102 mg/m ³ , 60 ppm Long-term value: 68 mg/m ³ , 40 ppm
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- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times

(Contd. on page 5)



Trade name: LC/MS Pesticide Standard 1

(Contd. of page 4)

exceeding 4 hrs. Supplier recommendations should be followed.

· **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

· **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: > 4 hours

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:** Fluid

· **Colour:** Colourless

· **Odour:** Aromatic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· **Melting point/freezing point:** -46 °C

· **Initial boiling point and boiling range:** 81 °C

· **Flash point:** 2 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 525 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

· **Lower:** 4.4 Vol %

· **Upper:** 16 Vol %

· **Vapour pressure at 20 °C:** 0 hPa

· **Density at 20 °C:** 0.786 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined.

(Contd. on page 6)



Trade name: LC/MS Pesticide Standard 1

(Contd. of page 5)

· Viscosity:	
Dynamic at 20 °C:	0.39 mPas
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
VOC (EC)	0.01 %
· Solids content:	
	0.3 %
· Other information	
	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

- **Acute toxicity**
Harmful if swallowed.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	1,324 mg/kg (rat)
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75-05-8 acetonitrile

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

2642-71-9 azinphos-ethyl (ISO)

Dermal	LD50	250 mg/kg (rat)
Inhalative	LC50/4 h	390 mg/L (rat)

22224-92-6 fenamiphos (ISO)

Oral	LD50	10 mg/kg (rat)
Dermal	LD50	80 mg/kg (rat)
Inhalative	LC50/4 h	91 mg/L (rat)

149961-52-4 dimoxystrobin (ISO)

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	1,700 mg/L (rat)

142459-58-3 flufenacet (ISO)

Oral	LD50	589 mg/kg (rat)
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(Contd. on page 7)



Trade name: LC/MS Pesticide Standard 1

(Contd. of page 6)

Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>3,700 mg/L (rat)
189278-12-4 proquinazid		
Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rat)
118134-30-8 spiroxamine		
Oral	LD50	>500 mg/kg (rat)
Dermal	LD50	1,043 mg/kg (rat)
2164-08-1 lenacil (ISO)		
Oral	LD50	11,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
94361-06-5 cyproconazole(ISO)		
Oral	LD50	1,020 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>5,650 mg/L (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

(Contd. on page 8)



Trade name: LC/MS Pesticide Standard 1

· **Other adverse effects** No further relevant information available.

(Contd. of page 7)

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**

HP 3	Flammable
HP 4	Irritant - skin irritation and eye damage
HP 6	Acute Toxicity
HP 14	Ecotoxic

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· **ADR, IMDG, IATA**

UN1648

· **UN proper shipping name**

· **ADR**

1648 ACETONITRILE solution, ENVIRONMENTALLY HAZARDOUS

· **IMDG**

ACETONITRILE solution, MARINE POLLUTANT

· **IATA**

ACETONITRILE solution

· **Transport hazard class(es)**

· **ADR, IMDG**



· **Class**

3 Flammable liquids.

· **Label**

3

· **IATA**



· **Class**

3 Flammable liquids.

· **Label**

3

· **Packing group**

· **ADR, IMDG, IATA**

II

· **Environmental hazards:**

Product contains environmentally hazardous substances:

azinphos-methyl (ISO)

· **Marine pollutant:**

Symbol (fish and tree)

(Contd. on page 9)



Trade name: LC/MS Pesticide Standard 1

(Contd. of page 8)

· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Stowage Category	B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1648 ACETONITRILE SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category**

E2 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40

· **Regulation (EU) No 649/2012**

2642-71-9 azinphos-ethyl (ISO)

Annex I Part 1

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H300 Fatal if swallowed.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

(Contd. on page 10)


Trade name: LC/MS Pesticide Standard 1

(Contd. of page 9)

- H310 Fatal in contact with skin.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.
- H332 Harmful if inhaled.
- H351 Suspected of causing cancer.
- H360D May damage the unborn child.
- H361d Suspected of damaging the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Fam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 2: Acute toxicity – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

Carc. 2: Carcinogenicity – Category 2

Repr. 1B: Reproductive toxicity – Category 1B

Repr. 2: Reproductive toxicity – Category 2

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

· *** Data compared to the previous version altered.**



1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 2
- **Part number:** 5190-0551-2
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str.8
76337 Waldbronn
Germany
- **Further information obtainable from:**
Telephone: 0800 603 1000
pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(44)-870-8200418

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2 H319 Causes serious eye irritation.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02



GHS07



GHS09

- **Signal word** Danger
- **Hazard-determining components of labelling:**
acetonitrile



Trade name: LC/MS Pesticide Standard 2

(Contd. of page 1)

· Hazard statements

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.
- H410 Very toxic to aquatic life with long lasting effects.

· Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P330 Rinse mouth.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P391 Collect spillage.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Other hazards

· Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterisation: Mixtures

· **Description:** Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 75-05-8 EINECS: 200-835-2	acetonitrile ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	99.606%
CAS: 563-12-2 EINECS: 209-242-3	ethion (ISO) ⚠ Acute Tox. 3, H301; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H312	0.0127%
CAS: 2921-88-2 EINECS: 220-864-4	chlorpyrifos (ISO) ⚠ Acute Tox. 3, H301; Acute Tox. 2, H310; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%

(Contd. on page 3)



Trade name: LC/MS Pesticide Standard 2

(Contd. of page 2)

CAS: 5598-13-0 EINECS: 227-011-5	chlorpyrifos-methyl ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	0.0127%
CAS: 82657-04-3	bifenthrin ⚠ Acute Tox. 2, H300; Acute Tox. 3, H331; ⚠ Carc. 2, H351; STOT RE 1, H372; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Sens. 1B, H317	0.0127%
CAS: 35554-44-0 EINECS: 252-615-0	imazalil (ISO) ⚠ Acute Tox. 3, H301; ⚠ Carc. 2, H351; ⚠ Eye Dam. 1, H318; ⚠ Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H332	0.0127%
CAS: 107534-96-3 ELINCS: 403-640-2	1-(4-chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol ⚠ Repr. 2, H361d; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	0.0127%
CAS: 62-73-7 EINECS: 200-547-7	dichlorvos (ISO) ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330; ⚠ Aquatic Acute 1, H400; ⚠ Skin Sens. 1, H317	0.0127%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Call for a doctor immediately.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

(Contd. on page 4)



Trade name: LC/MS Pesticide Standard 2

(Contd. of page 3)

Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

* **7 Handling and storage**

· **Handling:**

· **Precautions for safe handling** No special precautions are necessary if used correctly.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store in a cool location.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· **Specific end use(s)** No further relevant information available.

* **8 Exposure controls/personal protection**

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

75-05-8 acetonitrile

WEL Short-term value: 102 mg/m³, 60 ppm

Long-term value: 68 mg/m³, 40 ppm

2921-88-2 chlorpyrifos (ISO)

WEL Short-term value: 0.6 mg/m³

Long-term value: 0.2 mg/m³

Sk

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

(Contd. on page 5)



Trade name: LC/MS Pesticide Standard 2

(Contd. of page 4)

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.

Protection of hands:

Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

Material of gloves

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

Penetration time of glove material

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: > 4 hours

Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Fluid
Colour:	Colourless
Odour:	Aromatic
Odour threshold:	Not determined.

pH-value: Not determined.

Change in condition

Melting point/freezing point:	-46 °C
Initial boiling point and boiling range:	81 °C

Flash point: 2 °C

Flammability (solid, gas): Not applicable.

Ignition temperature: 525 °C

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Explosion limits:

Lower:	4.4 Vol %
Upper:	16 Vol %

Vapour pressure at 20 °C: 0 hPa

Density at 20 °C: 0.786 g/cm³

Relative density Not determined.

Vapour density Not determined.

(Contd. on page 6)



Trade name: LC/MS Pesticide Standard 2

(Contd. of page 5)

· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic at 20 °C:	0.39 mPas
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.1 %
VOC (EC)	0.06 %
· Solids content:	0.3 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	1,325 mg/kg (rat)
------	------	-------------------

75-05-8 acetonitrile

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

563-12-2 ethion (ISO)

Oral	LD50	13 mg/kg (rat)
Dermal	LD50	62 mg/kg (rat)
Inhalative	LC50/4 h	864 mg/L (rat)

2921-88-2 chlorpyrifos (ISO)

Oral	LD50	60 mg/kg (mouse)
		135 mg/kg (rat)
Dermal	LD50	120 mg/kg (mouse)
		202 mg/kg (rat)

(Contd. on page 7)



Trade name: LC/MS Pesticide Standard 2

(Contd. of page 6)

Inhalative	LC50/4 h	>200 mg/L (rat)
5598-13-0 chlorpyrifos-methyl		
Oral	LD50	1,828 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>670 mg/L (rat)
82657-04-3 bifenthrin		
Oral	LD50	55 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
35554-44-0 imazalil (ISO)		
Oral	LD50	227 mg/kg (rat)
Dermal	LD50	4,200 mg/kg (rabbit)
107534-96-3 1-(4-chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol		
Oral	LD50	1,700 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rat)
Inhalative	LC50/4 h	>800 mg/L (rat)
62-73-7 dichlorvos (ISO)		
Oral	LD50	25 mg/kg (rat)
Dermal	LD50	107 mg/kg (rat) 107 mg/kg (rabbit)
Inhalative	LC50/4 h	15 mg/L (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

(Contd. on page 8)



Trade name: LC/MS Pesticide Standard 2

(Contd. of page 7)

- Also poisonous for fish and plankton in water bodies.
- Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**

HP 3	Flammable
HP 4	Irritant - skin irritation and eye damage
HP 6	Acute Toxicity
HP 14	Ecotoxic

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **ADR, IMDG, IATA** UN1648
- **UN proper shipping name**
- **ADR** 1648 ACETONITRILE solution, ENVIRONMENTALLY HAZARDOUS
- **IMDG** ACETONITRILE solution, MARINE POLLUTANT
- **IATA** ACETONITRILE solution

- **Transport hazard class(es)**
- **ADR, IMDG**



- **Class** 3 Flammable liquids.
- **Label** 3

- **IATA**



- **Class** 3 Flammable liquids.
- **Label** 3

(Contd. on page 9)



Trade name: LC/MS Pesticide Standard 2

(Contd. of page 8)

· Packing group · ADR, IMDG, IATA	II
· Environmental hazards: · Marine pollutant: · Special marking (ADR):	Product contains environmentally hazardous substances: coumaphos (ISO), ethion (ISO) Symbol (fish and tree) Symbol (fish and tree)
· Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category	Warning: Flammable liquids. 33 F-E,S-D B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 2 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1648 ACETONITRILE SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**
E1 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40

· Regulation (EU) No 649/2012		
563-12-2	ethion (ISO)	Annex I Part 1
62-73-7	dichlorvos (ISO)	Annex I Part 1 Annex I Part 2

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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(Contd. on page 10)

**Trade name: LC/MS Pesticide Standard 2**

(Contd. of page 9)

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· Relevant phrases

- H225 Highly flammable liquid and vapour.
- H300 Fatal if swallowed.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H310 Fatal in contact with skin.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H351 Suspected of causing cancer.
- H361d Suspected of damaging the unborn child.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

· Abbreviations and acronyms:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Flammable liquids – Category 2
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 4: Acute toxicity – Category 4
- Acute Tox. 2: Acute toxicity – Category 2
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1
- Skin Sens. 1B: Skin sensitisation – Category 1B
- Carc. 2: Carcinogenicity – Category 2
- Repr. 2: Reproductive toxicity – Category 2
- STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

· * Data compared to the previous version altered.



1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 3
- **Part number:** 5190-0551-3
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str.8
76337 Waldbronn
Germany
- **Further information obtainable from:**
Telephone: 0800 603 1000
pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(44)-870-8200418

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2 H319 Causes serious eye irritation.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02



GHS07



GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**

acetonitrile

(Contd. on page 2)



Trade name: LC/MS Pesticide Standard 3

(Contd. of page 1)

· **Hazard statements**

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.
- H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P330 Rinse mouth.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P391 Collect spillage.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 75-05-8 EINECS: 200-835-2	acetonitrile Flam. Liq. 2, H225; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	99.441%
CAS: 2597-03-7 EINECS: 219-997-0	phenthoate (ISO) Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Acute Tox. 4, H312	0.0127%

(Contd. on page 3)



Trade name: LC/MS Pesticide Standard 3

(Contd. of page 2)

CAS: 121-75-5 EINECS: 204-497-7	malathion (ISO) ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	0.0127%
CAS: 731-27-1 EINECS: 211-986-9	tolyfluanid (ISO) ⚠ Acute Tox. 3, H311; Acute Tox. 2, H330; ⚠ STOT RE 1, H372; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	0.0127%
CAS: 7786-34-7 EINECS: 232-095-1	mevinphos (ISO) ⚠ Acute Tox. 2, H300; Acute Tox. 1, H310; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 2212-67-1 EINECS: 218-661-0	molinate (ISO) ⚠ Carc. 2, H351; Repr. 2, H361f; STOT RE 2, H373; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Sens. 1, H317	0.0127%
CAS: 2310-17-0 EINECS: 218-996-2	phosalone ⚠ Acute Tox. 3, H301; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Sens. 1, H317	0.0127%
CAS: 80844-07-1 ELINCS: 407-980-2	etofenprox ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 67129-08-2 EINECS: 266-583-0	Metazachlor (ISO) ⚠ Carc. 2, H351; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	0.0127%
CAS: 23103-98-2 EINECS: 245-430-1	pirimicarb ⚠ Acute Tox. 3, H301; Acute Tox. 3, H331; ⚠ Carc. 2, H351; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Sens. 1, H317	0.0127%
CAS: 41198-08-7 EINECS: 255-255-2	O-(4-bromo-2-chlorophenyl) O-ethyl S-propyl phosphorothioate ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	0.0127%
CAS: 31218-83-4 EINECS: 250-517-2	trans-isopropyl-3-[[[(ethylamino)-methoxyfosfinothioyl]oxy]crotonate ⚠ Acute Tox. 3, H301; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 13593-03-8 EINECS: 237-031-6	quinalphos (ISO) ⚠ Acute Tox. 3, H301; ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H312	0.0127%
CAS: 13071-79-9 EINECS: 235-963-8	S-tert-butylthiomethyl O,O-diethylphosphorodithioate ⚠ Acute Tox. 2, H300; Acute Tox. 1, H310; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 24017-47-8 EINECS: 245-986-5	triazophos (ISO) ⚠ Acute Tox. 3, H301; Acute Tox. 3, H331; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H312	0.0127%
CAS: 141112-29-0	isoxaflutole (ISO) ⚠ Repr. 2, H361d; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 119168-77-3	tebufenpyrad ⚠ Acute Tox. 3, H301; ⚠ STOT RE 2, H373; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H332; Skin Sens. 1B, H317	0.0127%

Additional information: For the wording of the listed hazard phrases refer to section 16.

GB

(Contd. on page 4)



Trade name: LC/MS Pesticide Standard 3

(Contd. of page 3)

4 First aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

(Contd. on page 5)



Trade name: LC/MS Pesticide Standard 3

(Contd. of page 4)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

75-05-8 acetonitrile

WEL	Short-term value: 102 mg/m ³ , 60 ppm
	Long-term value: 68 mg/m ³ , 40 ppm

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
For normal use: nitrile rubber, 11-13 mil thickness
For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
For normal use: nitrile rubber: 1 hour
For direct contact with the chemical: butyl rubber: > 4 hours

(Contd. on page 6)



Trade name: LC/MS Pesticide Standard 3

(Contd. of page 5)

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Fluid
· Colour:	Colourless
· Odour:	Aromatic
· Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· Melting point/freezing point:	-46 °C
· Initial boiling point and boiling range:	81 °C

· **Flash point:** 2 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 525 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

· Lower:	4.4 Vol %
· Upper:	16 Vol %

· **Vapour pressure at 20 °C:** 0 hPa

· Density at 20 °C:	0.786 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined.

· **Viscosity:**

· Dynamic at 20 °C:	0.39 mPas
· Kinematic:	Not determined.

· **Solvent content:**

· Organic solvents:	0.1 %
· VOC (EC)	0.08 %

(Contd. on page 7)



Trade name: LC/MS Pesticide Standard 3

(Contd. of page 6)

· **Solids content:** 0.4 %
· **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.

· **LD/LC50 values relevant for classification:**

ATE (Acute Toxicity Estimates)

Oral	LD50	1,327 mg/kg (rat)
------	------	-------------------

75-05-8 acetonitrile

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

2597-03-7 phenthoate (ISO)

Oral	LD50	71 mg/kg (rat)
Dermal	LD50	700 mg/kg (rat)
Inhalative	LC50/4 h	59 mg/L (rat)

121-75-5 malathion (ISO)

Oral	LD50	1,000 mg/kg (rat)
Dermal	LD50	8,790 mg/kg (rabbit)

731-27-1 tolylfluanid (ISO)

Oral	LD50	1,000 mg/kg (rat)
Dermal	LD50	500 mg/kg (rat)
Inhalative	LC50/4 h	300 mg/L (rat)

7786-34-7 mevinphos (ISO)

Oral	LD50	3 mg/kg (rat)
Dermal	LD50	4 mg/kg (rat)

2212-67-1 molinate (ISO)

Oral	LD50	369 mg/kg (rat)
Dermal	LD50	3,536 mg/kg (rabbit)

(Contd. on page 8)



Trade name: LC/MS Pesticide Standard 3

(Contd. of page 7)

2310-17-0 phosalone		
Oral	LD50	85 mg/kg (rat)
Dermal	LD50	1,000 mg/kg (rabbit)
80844-07-1 etofenprox		
Oral	LD50	>42,800 mg/kg (rat)
Dermal	LD50	>2,140 mg/kg (rat)
67129-08-2 Metazachlor (ISO)		
Oral	LD50	1,000 mg/kg (rat)
Dermal	LD50	>6,810 mg/kg (rat)
23103-98-2 pirimicarb		
Oral	LD50	>500 mg/kg (rat)
41198-08-7 O-(4-bromo-2-chlorophenyl) O-ethyl S-propyl phosphorothioate		
Oral	LD50	620.5 mg/kg (rat)
Inhalative	LC50/4 h	>2.2 mg/L (rat)
31218-83-4 trans-isopropyl-3-[(ethylamino)-methoxyfosfinothioyl]oxy]crotonate		
Dermal	LD50	564 mg/kg (rat)
Inhalative	LC50/4 h	690 mg/L (rat)
13593-03-8 quinalphos (ISO)		
Oral	LD50	26 mg/kg (rat)
Dermal	LD50	300 mg/kg (rat)
Inhalative	LC50/4 h	330 mg/L (mouse)
13071-79-9 S-tert-butylthiomethyl O,O-diethylphosphorodithioate		
Oral	LD50	4.5 mg/kg (rat)
24017-47-8 triazophos (ISO)		
Oral	LD50	57 mg/kg (rat)
Dermal	LD50	1,100 mg/kg (rat)
Inhalative	LC50/4 h	28 mg/L (rat)
141112-29-0 isoxaflutole (ISO)		
Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	5,200 mg/L (rat)
119168-77-3 tebufenpyrad		
Oral	LD50	595 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.

(Contd. on page 9)



Trade name: LC/MS Pesticide Standard 3

· **Aspiration hazard** Based on available data, the classification criteria are not met.

(Contd. of page 8)

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**

HP 3	Flammable
HP 4	Irritant - skin irritation and eye damage
HP 6	Acute Toxicity
HP 14	Ecotoxic

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **ADR, IMDG, IATA** UN1648
- **UN proper shipping name**
- **ADR** 1648 ACETONITRILE solution, ENVIRONMENTALLY HAZARDOUS
- **IMDG** ACETONITRILE solution, MARINE POLLUTANT
- **IATA** ACETONITRILE solution

(Contd. on page 10)



Trade name: LC/MS Pesticide Standard 3

(Contd. of page 9)

· Transport hazard class(es)

· ADR, IMDG



· Class 3 Flammable liquids.
· Label 3

· IATA



· Class 3 Flammable liquids.
· Label 3

· Packing group

· ADR, IMDG, IATA II

· Environmental hazards: Product contains environmentally hazardous substances:
phenthoate (ISO), malathion (ISO)

· Marine pollutant: Symbol (fish and tree)

· Special marking (ADR): Symbol (fish and tree)

· Special precautions for user Warning: Flammable liquids.

· Danger code (Kemler): 33

· EMS Number: F-E,S-D

· Stowage Category B

· Transport in bulk according to Annex II of Marpol
and the IBC Code Not applicable.

· Transport/Additional information:

· ADR

· Limited quantities (LQ) 1L

· Excepted quantities (EQ) Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· Transport category 2

· Tunnel restriction code D/E

· IMDG

· Limited quantities (LQ) 1L

· Excepted quantities (EQ) Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation": UN 1648 ACETONITRILE SOLUTION, 3, II,
ENVIRONMENTALLY HAZARDOUS

GB

(Contd. on page 11)


Trade name: LC/MS Pesticide Standard 3

(Contd. of page 10)

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- Seveso category
 - E1 Hazardous to the Aquatic Environment
 - P5c FLAMMABLE LIQUIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 40

- Regulation (EU) No 649/2012

121-75-5	malathion (ISO)	Annex I Part 1
731-27-1	tolyfluanid (ISO)	Annex I Part 1 Annex I Part 2
2310-17-0	phosalone	Annex I Part 1 Annex I Part 2
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate	Annex I Part 1
24017-47-8	triazophos (ISO)	Annex I Part 1

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- Relevant phrases

- H225 Highly flammable liquid and vapour.
- H300 Fatal if swallowed.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H310 Fatal in contact with skin.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H361d Suspected of damaging the unborn child.
- H361f Suspected of damaging fertility.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

- Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

(Contd. on page 12)

**Trade name: LC/MS Pesticide Standard 3**

(Contd. of page 11)

IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 1: Acute toxicity – Category 1
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 2: Acute toxicity – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1B: Skin sensitisation – Category 1B
Carc. 2: Carcinogenicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

· * **Data compared to the previous version altered.**

GB



1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 4
- **Part number:** 5190-0551-4
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str.8
76337 Waldbronn
Germany
- **Further information obtainable from:**
Telephone: 0800 603 1000
pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(44)-870-8200418

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2 H319 Causes serious eye irritation.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02



GHS07



GHS09

- **Signal word** Danger
- **Hazard-determining components of labelling:**
acetonitrile



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 1)

· Hazard statements

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.
- H410 Very toxic to aquatic life with long lasting effects.

· Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P330 Rinse mouth.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P391 Collect spillage.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Other hazards

· Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterisation: Mixtures

· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 75-05-8 EINECS: 200-835-2	acetonitrile ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	99.365%
CAS: 2312-35-8 EINECS: 219-006-1	propargite (ISO) ⚠ Acute Tox. 3, H331; ⚠ Carc. 2, H351; ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Irrit. 2, H315	0.0127%
CAS: 14816-18-3 EINECS: 238-887-3	phoxim (ISO) ⚠ Acute Tox. 3, H311; ⚠ Repr. 2, H361f; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	0.0127%

(Contd. on page 3)



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 2)

CAS: 120116-88-3	cyazofamid (ISO) ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 120068-37-3 ELINCS: 424-610-5	fipronil (ISO) ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ STOT RE 1, H372; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 101463-69-8 ELINCS: 417-680-3	flufenoxuron ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H332	0.0127%
CAS: 101200-48-0 ELINCS: 401-190-1	methyl 2-(3-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)3-methylureidosulphonyl) benzoate ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Sens. 1, H317	0.0127%
CAS: 21087-64-9 EINECS: 244-209-7	metribuzin (ISO) ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	0.0127%
CAS: 64902-72-3 EINECS: 265-268-5	2-chloro-N-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl] benzenesulphonamide ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 74223-64-6	metsulfuron-methyl ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 120923-37-7 ELINCS: 407-380-0	Amidosulfuron ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H332	0.0127%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

GB

(Contd. on page 4)



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 3)

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

75-05-8 acetonitrile

WEL	Short-term value: 102 mg/m ³ , 60 ppm
	Long-term value: 68 mg/m ³ , 40 ppm

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.

(Contd. on page 5)



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 4)

· **Respiratory protection:**

When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.

· **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

· **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

· **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: > 4 hours

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Colour: Colourless

· **Odour:** Aromatic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point: -46 °C

Initial boiling point and boiling range: 81 °C

· **Flash point:** 2 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 525 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower: 4.4 Vol %

Upper: 16 Vol %

(Contd. on page 6)



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 5)

· Vapour pressure at 20 °C:	0 hPa
· Density at 20 °C:	0.786 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic at 20 °C:	0.39 mPas
Kinematic:	Not determined.
· Solvent content:	
VOC (EC)	0.00 %
Solids content:	0.5 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	1,328 mg/kg (rat)
------	------	-------------------

75-05-8 acetonitrile

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

2312-35-8 propargite (ISO)

Oral	LD50	2,800 mg/kg (rat)
Dermal	LD50	10,300 mg/kg (rabbit)

14816-18-3 phoxim (ISO)

Oral	LD50	300 mg/kg (rat)
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(Contd. on page 7)

**Trade name: LC/MS Pesticide Standard 4**

(Contd. of page 6)

Dermal	LD50	1,000 mg/kg (rat)
120068-37-3 fipronil (ISO)		
Oral	LD50	97 mg/kg (rat)
Dermal	LD50	354 mg/kg (rabbit)
Inhalative	LC50/4 h	680 mg/L (rat)
101463-69-8 flufenoxuron		
Oral	LD50	>3,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	5,000 mg/L (rat)
101200-48-0 methyl 2-(3-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)3-methylureidosulphonyl)benzoate		
Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
21087-64-9 metribuzin (ISO)		
Oral	LD50	1,090 mg/kg (rat)
Dermal	LD50	>20,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>860 mg/L (rat)
64902-72-3 2-chloro-N-[[4-methoxy-6-methyl-1,3,5-triazin-2-yl]amino]carbonyl]benzenesulphonamide		
Oral	LD50	5,545 mg/kg (rat)
Dermal	LD50	3,400 mg/kg (rabbit)
Inhalative	LC50/4 h	>5,900 mg/L (rat)
74223-64-6 metsulfuron-methyl		
Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>5,000 mg/L (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish

(Contd. on page 8)



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 7)

- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.



13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue	
HP 3	Flammable
HP 4	Irritant - skin irritation and eye damage
HP 6	Acute Toxicity
HP 14	Ecotoxic

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	UN1648
· ADR, IMDG, IATA	UN1648
· UN proper shipping name	1648 ACETONITRILE solution, ENVIRONMENTALLY HAZARDOUS
· ADR	ACETONITRILE solution, MARINE POLLUTANT
· IMDG	ACETONITRILE solution
· IATA	
· Transport hazard class(es)	
· ADR, IMDG	
 	
· Class	3 Flammable liquids.
· Label	3

(Contd. on page 9)



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 8)

· IATA	
· Class	3 Flammable liquids.
· Label	3
· Packing group	II
· ADR, IMDG, IATA	II
· Environmental hazards:	Product contains environmentally hazardous substances: linuron (ISO), phoxim (ISO)
· Marine pollutant:	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Stowage Category	B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1648 ACETONITRILE SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- Seveso category
E1 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 40

(Contd. on page 10)



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 9)

· Regulation (EU) No 649/2012		
2312-35-8	propargite (ISO)	Annex I Part 1 Annex I Part 2
101463-69-8	flufenoxuron	Annex I Part 1 Annex I Part 2

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· **Relevant phrases**

- H225 Highly flammable liquid and vapour.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H351 Suspected of causing cancer.
- H361f Suspected of damaging fertility.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Flammable liquids – Category 2
- Acute Tox. 4: Acute toxicity – Category 4
- Acute Tox. 3: Acute toxicity – Category 3
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1
- Carc. 2: Carcinogenicity – Category 2
- Repr. 2: Reproductive toxicity – Category 2
- STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

· *** Data compared to the previous version altered.**



1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 5
- **Part number:** 5190-0551-5
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str.8
76337 Waldbronn
Germany
- **Further information obtainable from:**
Telephone: 0800 603 1000
pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(44)-870-8200418

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02



GHS07



GHS09

- **Signal word** Danger
- **Hazard-determining components of labelling:**
acetonitrile



Trade name: LC/MS Pesticide Standard 5

(Contd. of page 1)

· Hazard statements

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H411 Toxic to aquatic life with long lasting effects.

· Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P330 Rinse mouth.
- P321 Specific treatment (see on this label).
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P370+P378 In case of fire: Use for extinction: CO₂, powder or water spray.
- P391 Collect spillage.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Other hazards

· Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterisation: Mixtures

· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 75-05-8 EINECS: 200-835-2	acetonitrile ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	86.194%
CAS: 67-68-5 EINECS: 200-664-3	dimethyl sulfoxide ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319	13.416%

(Contd. on page 3)



Trade name: LC/MS Pesticide Standard 5

(Contd. of page 2)

CAS: 16752-77-5 EINECS: 240-815-0	methomyl ☠ Acute Tox. 2, H300; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0122%
CAS: 96489-71-3 ELINCS: 405-700-3	2-tert-butyl-5-(4-tert-butylbenzylthio)-4-chloropyridazin-3(2H)-one ☠ Acute Tox. 3, H301; Acute Tox. 3, H331; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0122%
CAS: 111988-49-9	thiacloprid ☠ Acute Tox. 3, H301; ☠ Carc. 2, H351; Repr. 1B, H360; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ☠ Acute Tox. 4, H332; STOT SE 3, H336	0.0122%
CAS: 153719-23-4 ELINCS: 428-650-4	thiamethoxam (ISO) ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ☠ Acute Tox. 4, H302	0.0122%
CAS: 330-54-1 EINECS: 206-354-4	diuron(ISO) ☠ Carc. 2, H351; STOT RE 2, H373; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ☠ Acute Tox. 4, H302	0.0122%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Call for a doctor immediately.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

(Contd. on page 4)



Trade name: LC/MS Pesticide Standard 5

(Contd. of page 3)

- Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

Ingredients with limit values that require monitoring at the workplace:

75-05-8 acetonitrile

WEL	Short-term value: 102 mg/m ³ , 60 ppm Long-term value: 68 mg/m ³ , 40 ppm
-----	--

330-54-1 diuron(ISO)

WEL	Long-term value: 10 mg/m ³
-----	---------------------------------------

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times

(Contd. on page 5)



Trade name: LC/MS Pesticide Standard 5

(Contd. of page 4)

exceeding 4 hrs. Supplier recommendations should be followed.

· **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

· **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: > 4 hours

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid
Colour: Colourless

· **Odour:** Aromatic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point: -46 °C

Initial boiling point and boiling range: 81 °C

· **Flash point:** 2 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 270 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower: 1.8 Vol %

Upper: 63 Vol %

· **Vapour pressure at 20 °C:** 0.4 hPa

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined.

(Contd. on page 6)



Trade name: LC/MS Pesticide Standard 5

(Contd. of page 5)

· Viscosity:	
Dynamic at 20 °C:	0.39 mPas
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	13.4 %
VOC (EC)	13.42 %
· Solids content:	
	0.4 %
· Other information	
	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

- **Acute toxicity**
Harmful if swallowed.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	1,531 mg/kg (rat)
------	------	-------------------

75-05-8 acetonitrile

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

67-68-5 dimethyl sulfoxide

Oral	LD50	14,500 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	40,250 mg/L (rat)

16752-77-5 methomyl

Oral	LD50	17 mg/kg (rat)
Dermal	LD50	5,880 mg/kg (rabbit)

96489-71-3 2-tert-butyl-5-(4-tert-butylbenzylthio)-4-chloropyridazin-3(2H)-one

Oral	LD50	205 mg/kg (mouse)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	620 mg/L (rat)

111988-49-9 thiacloprid

Oral	LD50	444 mg/kg (rat)
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(Contd. on page 7)



Trade name: LC/MS Pesticide Standard 5

(Contd. of page 6)

Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	1,223 mg/L (rat)
153719-23-4 thiamethoxam (ISO)		
Oral	LD50	1,563 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>3,720 mg/L (rat)
330-54-1 diuron(ISO)		
Oral	LD50	1,017 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rat)
Inhalative	LC50/4 h	>5.05 mg/L (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

GB

(Contd. on page 8)



Trade name: LC/MS Pesticide Standard 5

(Contd. of page 7)

13 Disposal considerations

- Waste treatment methods
- Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue

HP 3	Flammable
HP 4	Irritant - skin irritation and eye damage
HP 6	Acute Toxicity
HP 14	Ecotoxic

· Uncleaned packaging:

- Recommendation: Disposal must be made according to official regulations.

14 Transport information

· UN-Number

· ADR, IMDG, IATA UN1648

· UN proper shipping name

· ADR 1648 ACETONITRILE solution, ENVIRONMENTALLY HAZARDOUS

· IMDG ACETONITRILE solution, MARINE POLLUTANT

· IATA ACETONITRILE solution

· Transport hazard class(es)

· ADR, IMDG



· Class

3 Flammable liquids.

· Label

3

· IATA



· Class

3 Flammable liquids.

· Label

3

· Packing group

· ADR, IMDG, IATA II

· Environmental hazards:

Product contains environmentally hazardous substances: aldicarb (ISO), 2-tert-butyl-5-(4-tert-butylbenzylthio)-4-chloropyridazin-3(2H)-one

· Marine pollutant:

Symbol (fish and tree)

· Special marking (ADR):

Symbol (fish and tree)

· Special precautions for user

Warning: Flammable liquids.

(Contd. on page 9)



Trade name: LC/MS Pesticide Standard 5

(Contd. of page 8)

· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Stowage Category	B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1648 ACETONITRILE SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- Seveso category
E2 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements 200 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 40

· Regulation (EU) No 649/2012		
16752-77-5	methomyl	Annex I Part I

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- **Relevant phrases**
H225 Highly flammable liquid and vapour.
H300 Fatal if swallowed.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.

(Contd. on page 10)

**Trade name: LC/MS Pesticide Standard 5**

(Contd. of page 9)

- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H336 May cause drowsiness or dizziness.
- H351 Suspected of causing cancer.
- H360 May damage fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Flammable liquids – Category 2
- Acute Tox. 2: Acute toxicity – Category 2
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Carc. 2: Carcinogenicity – Category 2
- Repr. 1B: Reproductive toxicity – Category 1B
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

*** Data compared to the previous version altered.**



1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 6
- **Part number:** 5190-0551-6
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str.8
76337 Waldbronn
Germany
- **Further information obtainable from:**
Telephone: 0800 603 1000
pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(44)-870-8200418

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2 H319 Causes serious eye irritation.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02



GHS07



GHS09

- **Signal word** Danger
- **Hazard-determining components of labelling:**
acetonitrile



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 1)

· **Hazard statements**

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.
- H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P330 Rinse mouth.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P391 Collect spillage.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

Contains spirotetramat (ISO). May produce an allergic reaction.

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 75-05-8 EINECS: 200-835-2	acetonitrile ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	99.733%
CAS: 63-25-2 EINECS: 200-555-0	carbaryl (ISO) ⚠ Carc. 2, H351; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332	0.0127%
CAS: 52-68-6 EINECS: 200-149-3	trichlorfon (ISO) ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	0.0127%

(Contd. on page 3)



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 2)

CAS: 65907-30-4 EINECS: 265-974-3	furathiocarb Acute Tox. 3, H301; Acute Tox. 2, H330; STOT RE 2, H373; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	0.0127%
CAS: 103361-09-7	flumioxazin (ISO) Repr. 1B, H360D; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 203313-25-1	spirotetramat (ISO) Repr. 2, H361fd; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Eye Irrit. 2, H319; Skin Sens. 1A, H317; STOT SE 3, H335	0.0127%
CAS: 156052-68-5	zoxamide (ISO) Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	0.0127%
CAS: 732-11-6 EINECS: 211-987-4	phosmet (ISO) Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Acute Tox. 4, H312	0.0127%
CAS: 72490-01-8 EINECS: 276-696-7	ethyl[2-(4-phenoxyphenoxy)ethyl]carbamate Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.

(Contd. on page 4)



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 3)

- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

75-05-8 acetonitrile

WEL	Short-term value: 102 mg/m ³ , 60 ppm
	Long-term value: 68 mg/m ³ , 40 ppm

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.

(Contd. on page 5)



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 4)

· **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

· **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

· **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: > 4 hours

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:** Fluid

· **Colour:** Colourless

· **Odour:** Aromatic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· **Melting point/freezing point:** -46 °C

· **Initial boiling point and boiling range:** 81 °C

· **Flash point:** 2 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 525 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

· **Lower:** 4.4 Vol %

· **Upper:** 16 Vol %

· **Vapour pressure at 20 °C:** 0 hPa

· **Density at 20 °C:** 0.786 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

(Contd. on page 6)



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 5)

· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic at 20 °C:	0.39 mPas
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
VOC (EC)	0.01 %
· Solids content:	0.2 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.

· LD/LC50 values relevant for classification:		
ATE (Acute Toxicity Estimates)		
Oral	LD50	1,324 mg/kg (rat)
75-05-8 acetonitrile		
Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)
63-25-2 carbaryl (ISO)		
Oral	LD50	230 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
52-68-6 trichlorfon (ISO)		
Oral	LD50	882 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rat)
65907-30-4 furathiocarb		
Oral	LD50	53 mg/kg (rat)

(Contd. on page 7)



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 6)

103361-09-7 flumioxazin (ISO)		
Oral	LD50	>5,000 mg/kg (rat)
203313-25-1 spirotetramat (ISO)		
Oral	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	4.38 mg/L (rat)
156052-68-5 zoxamide (ISO)		
Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
732-11-6 phosmet (ISO)		
Oral	LD50	92.5 mg/kg (rat)
Dermal	LD50	1,150 mg/kg (rat) >3,160 mg/kg (rabbit)
Inhalative	LC50/4 h	54 mg/L (rat)
72490-01-8 ethyl[2-(4-phenoxyphenoxy)ethyl]carbamate		
Oral	LD50	16,800 mg/kg (rat)
Inhalative	LC50/4 h	>480 mg/L (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

(Contd. on page 8)



Trade name: LC/MS Pesticide Standard 6

· **Other adverse effects** No further relevant information available.

(Contd. of page 7)

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**

HP 3	Flammable
HP 4	Irritant - skin irritation and eye damage
HP 6	Acute Toxicity
HP 14	Ecotoxic

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· **ADR, IMDG, IATA**

UN1648

· **UN proper shipping name**

· **ADR**

1648 ACETONITRILE solution, ENVIRONMENTALLY HAZARDOUS

· **IMDG**

ACETONITRILE solution, MARINE POLLUTANT

· **IATA**

ACETONITRILE solution

· **Transport hazard class(es)**

· **ADR, IMDG**



· **Class**

3 Flammable liquids.

· **Label**

3

· **IATA**



· **Class**

3 Flammable liquids.

· **Label**

3

· **Packing group**

· **ADR, IMDG, IATA**

II

· **Environmental hazards:**

Product contains environmentally hazardous substances: carbaryl (ISO), trichlorfon (ISO)

· **Marine pollutant:**

Symbol (fish and tree)

(Contd. on page 9)



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 8)

· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Stowage Category	B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1648 ACETONITRILE SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category**

E1 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40

· Regulation (EU) No 649/2012		
63-25-2	carbaryl (ISO)	Annex I Part 1 Annex I Part 2
52-68-6	trichlorfon (ISO)	Annex I Part 1 Annex I Part 2
65907-30-4	furathiocarb	Annex I Part 1

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

(Contd. on page 10)

**Trade name: LC/MS Pesticide Standard 6**

(Contd. of page 9)

· Relevant phrases

- H225 Highly flammable liquid and vapour.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H360D May damage the unborn child.
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

· Abbreviations and acronyms:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Flammable liquids – Category 2
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 4: Acute toxicity – Category 4
- Acute Tox. 2: Acute toxicity – Category 2
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1
- Skin Sens. 1A: Skin sensitisation – Category 1A
- Carc. 2: Carcinogenicity – Category 2
- Repr. 1B: Reproductive toxicity – Category 1B
- Repr. 2: Reproductive toxicity – Category 2
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

· * Data compared to the previous version altered.



1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 7
- **Part number:** 5190-0551-7
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str.8
76337 Waldbronn
Germany
- **Further information obtainable from:**
Telephone: 0800 603 1000
pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(44)-870-8200418

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2 H319 Causes serious eye irritation.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02



GHS07



GHS09

- **Signal word** Danger
- **Hazard-determining components of labelling:**
acetonitrile



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 1)

· **Hazard statements**

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.
- H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P330 Rinse mouth.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P391 Collect spillage.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 75-05-8 EINECS: 200-835-2	acetonitrile ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	99.619%
CAS: 71751-41-2	abamectin (combination of avermectin B1a and avermectin B1b) (ISO) ⚠ Acute Tox. 2, H300; Acute Tox. 1, H330; ⚠ Repr. 2, H361d; STOT RE 1, H372; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 86479-06-3 ELINCS: 401-400-1	hexaflumuron (ISO) ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%

(Contd. on page 3)



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 2)

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

(Contd. on page 4)



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

75-05-8 acetonitrile

WEL	Short-term value: 102 mg/m ³ , 60 ppm
	Long-term value: 68 mg/m ³ , 40 ppm

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
For normal use: nitrile rubber, 11-13 mil thickness
For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
For normal use: nitrile rubber: 1 hour
For direct contact with the chemical: butyl rubber: > 4 hours

(Contd. on page 5)



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 4)

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Fluid
· Colour:	Colourless
· Odour:	Aromatic
· Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· Melting point/freezing point:	-46 °C
· Initial boiling point and boiling range:	81 °C

· **Flash point:** 2 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 525 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

· Lower:	4.4 Vol %
· Upper:	16 Vol %

· **Vapour pressure at 20 °C:** 0 hPa

· Density at 20 °C:	0.786 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· **Solubility in / Miscibility with water:** Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined.

· **Viscosity:**

· Dynamic at 20 °C:	0.39 mPas
· Kinematic:	Not determined.

· **Solvent content:**

· Organic solvents:	0.0 %
· VOC (EC)	0.01 %

(Contd. on page 6)



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 5)

- **Solids content:** 0.3 %
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.

· **LD/LC50 values relevant for classification:**

ATE (Acute Toxicity Estimates)

Oral	LD50	1,325 mg/kg (rat)
------	------	-------------------

75-05-8 acetonitrile

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

71751-41-2 abamectin (combination of avermectin B1a and avermectin B1b) (ISO)

Oral	LD50	1.5 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	1,100 mg/L (rat)

86479-06-3 hexaflumuron (ISO)

Oral	LD50	5,000 mg/kg (rat)
------	------	-------------------

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

GB

(Contd. on page 7)



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 6)

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**

HP 3	Flammable
HP 4	Irritant - skin irritation and eye damage
HP 6	Acute Toxicity
HP 14	Ecotoxic

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **ADR, IMDG, IATA** UN1648
- **UN proper shipping name**
- **ADR** 1648 ACETONITRILE solution, ENVIRONMENTALLY HAZARDOUS
- **IMDG** ACETONITRILE solution, MARINE POLLUTANT
- **IATA** ACETONITRILE solution

(Contd. on page 8)



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 7)

· Transport hazard class(es)

· ADR, IMDG



· Class 3 Flammable liquids.
· Label 3

· IATA



· Class 3 Flammable liquids.
· Label 3

· Packing group II
· ADR, IMDG, IATA

· Environmental hazards: Product contains environmentally hazardous substances: rotenone, abamectin (combination of avermectin B1a and avermectin B1b) (ISO)
· Marine pollutant: Symbol (fish and tree)
· Special marking (ADR): Symbol (fish and tree)

· Special precautions for user Warning: Flammable liquids.
· Danger code (Kemler): 33
· EMS Number: F-E,S-D
· Stowage Category B

· Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

· Transport/Additional information:

· ADR
· Limited quantities (LQ) 1L
· Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
· Transport category 2
· Tunnel restriction code D/E

· IMDG
· Limited quantities (LQ) 1L
· Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation": UN 1648 ACETONITRILE SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 8)

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**
 - E1 Hazardous to the Aquatic Environment
 - P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· **Relevant phrases**

- H225 Highly flammable liquid and vapour.
- H300 Fatal if swallowed.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.
- H332 Harmful if inhaled.
- H361d Suspected of damaging the unborn child.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Flammable liquids – Category 2
- Acute Tox. 2: Acute toxicity – Category 2
- Acute Tox. 4: Acute toxicity – Category 4
- Acute Tox. 1: Acute toxicity – Category 1
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Repr. 2: Reproductive toxicity – Category 2
- STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

- *** Data compared to the previous version altered.**



1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 8
- **Part number:** 5190-0551-8
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str.8
76337 Waldbronn
Germany
- **Further information obtainable from:**
Telephone: 0800 603 1000
pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(44)-870-8200418

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2 H319 Causes serious eye irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

- **Hazard pictograms**



GHS02 GHS07

- **Signal word** Danger

- **Hazard-determining components of labelling:**

acetonitrile

- **Hazard statements**

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.

(Contd. on page 2)



Trade name: LC/MS Pesticide Standard 8

(Contd. of page 1)

Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P330 Rinse mouth.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

Contains fluazinam. May produce an allergic reaction.

Other hazards

Results of PBT and vPvB assessment

- PBT:** Not applicable.
- vPvB:** Not applicable.

3 Composition/information on ingredients

Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 75-05-8 EINECS: 200-835-2	acetonitrile ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	99.759%
CAS: 79622-59-6	fluazinam ⚠ Repr. 2, H361d; ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H332; Skin Sens. 1A, H317	0.0127%
CAS: 13684-56-5 EINECS: 237-198-5	desmedipham ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 113614-08-7	beflubutamid (ISO) ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0127%
CAS: 121552-61-2	cyprodinil (ISO) ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Sens. 1, H317	0.0127%

(Contd. on page 3)



Trade name: LC/MS Pesticide Standard 8

(Contd. of page 2)

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

(Contd. on page 4)



Trade name: LC/MS Pesticide Standard 8

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

75-05-8 acetonitrile

WEL	Short-term value: 102 mg/m ³ , 60 ppm
	Long-term value: 68 mg/m ³ , 40 ppm

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
For normal use: nitrile rubber, 11-13 mil thickness
For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
For normal use: nitrile rubber: 1 hour
For direct contact with the chemical: butyl rubber: > 4 hours

(Contd. on page 5)



Trade name: LC/MS Pesticide Standard 8

(Contd. of page 4)

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Fluid
· Colour:	Colourless
· Odour:	Aromatic
· Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· Melting point/freezing point:	-46 °C
· Initial boiling point and boiling range:	81 °C

· **Flash point:** 2 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 525 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

· Lower:	4.4 Vol %
· Upper:	16 Vol %

· **Vapour pressure at 20 °C:** 0 hPa

· Density at 20 °C:	0.786 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined.

· **Viscosity:**

· Dynamic at 20 °C:	0.39 mPas
· Kinematic:	Not determined.

· **Solvent content:**

· **VOC (EC)** 0.00 %

· **Solids content:** 0.2 %

(Contd. on page 6)



Trade name: LC/MS Pesticide Standard 8

(Contd. of page 5)

· **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**

- **Acute toxicity**
Harmful if swallowed.

· **LD/LC50 values relevant for classification:**

ATE (Acute Toxicity Estimates)

Oral	LD50	1,323 mg/kg (rat)
------	------	-------------------

75-05-8 acetonitrile

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

79622-59-6 fluazinam

Oral	LD50	>4,100 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>1,100 mg/L (rat)

13684-56-5 desmedipham

Oral	LD50	9,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)

113614-08-7 beflubutamid (ISO)

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

121552-61-2 cyprodinil (ISO)

Oral	LD50	2,796 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.

(Contd. on page 7)



Trade name: LC/MS Pesticide Standard 8

(Contd. of page 6)

- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue

HP 3	Flammable
HP 4	Irritant - skin irritation and eye damage
HP 6	Acute Toxicity
HP 14	Ecotoxic

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **ADR, IMDG, IATA** UN1648
- **UN proper shipping name**
- **ADR** 1648 ACETONITRILE solution
- **IMDG, IATA** ACETONITRILE solution

(Contd. on page 8)



Trade name: LC/MS Pesticide Standard 8

(Contd. of page 7)

· **Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class** 3 Flammable liquids.
· **Label** 3

· **Packing group**

· **ADR, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Flammable liquids.

· **Danger code (Kemler):** 33

· **EMS Number:** F-E,S-D

· **Stowage Category** B

· **Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 1L

· **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· **Transport category** 2

· **Tunnel restriction code** D/E

· **IMDG**

· **Limited quantities (LQ)** 1L

· **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1648 ACETONITRILE SOLUTION, 3, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category P5c** FLAMMABLE LIQUIDS

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

GB

(Contd. on page 9)

**Trade name: LC/MS Pesticide Standard 8**

(Contd. of page 8)

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· Relevant phrases

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H361d Suspected of damaging the unborn child.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

· Abbreviations and acronyms:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Flammable liquids – Category 2
- Acute Tox. 4: Acute toxicity – Category 4
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1
- Skin Sens. 1A: Skin sensitisation – Category 1A
- Repr. 2: Reproductive toxicity – Category 2
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
- Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· * Data compared to the previous version altered.